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Research Article

Ingroup/Outgroup Attitudes and Group Evaluations: The Role of Competition in British Classroom Settings

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Children's intergroup bias is one of the consequences of their readiness to categorise people into ingroups and outgroups, even when groups are assigned arbitrarily. The present study examined the influence of intergroup competition on children's ingroup and outgroup attitudes developed within the minimal-group setting in British classrooms. One hundred and twelve children in two age groups (6-7- and 9-10-year-olds) were assessed on classification skills and self-esteem before being allocated to one of two colour "teams." In the experimental condition, children were told that the teams would have a competition after two weeks and teachers made regular use of these teams to organise activities. In the control condition, where no competition ensued, teachers did not refer to "teams." Then children completed trait attributions to their own-team (ingroup) and other-team (outgroup) members and group evaluations. It was found that children developed positive ingroup bias across conditions, but outgroup negative bias was shown only by 6-7-year-olds in the experimental condition, particularly if they lost the competition, where they evaluated their team more critically. Better classification skills were associated with less negativity towards the outgroup in the experimental condition. Findings are discussed in relation to relevant theoretical premises and particulars of the intergroup context.

1. Introduction

Social groups have a profound impact on the lifestyles that individuals may lead [1], and categorising people into social groups is a skill that children exhibit from a young age. They can use gender labels by age two [2] and sort persons by race by age three [3]. In addition, they hold value-laden attitudes and beliefs that differentiate between their own group and other groups. By age three, children also show more positivity towards—and report more reciprocated friendships with—same-sex peers [4] and by 4-5 years White children prefer—and express a greater liking for—other White children [5]. Furthermore, children readily distinguish and discriminate novel group members as adults do, even when such groups are created artificially as in minimal-group studies [6–12]. In particular, when competition between groups is introduced or when "threat" is detected about another group in such a context, children's attitudes towards group members are enhanced [13–15]. The present study was conducted to investigate British children's ingroup and outgroup biases that developed in a competitive context within the classrooms, where the adults in charge arbitrarily assigned them to novel social groups and organised the environment using the groups.

Ingroup bias refers to individuals showing a preference for others perceived to be in the same social group (ingroup) versus those from another group (outgroup) [1]. This bias can be a strategy for anchoring a positive identity and there is evidence for ingroup bias to positively and causally affect the way people feel about themselves [16]. This is in line with the key premise of social identity theory (SIT; [17]). SIT posits that an individual's sense of identity is derived from social group memberships and that identification with the ingroup often leads to the formation of ingroup bias as they place greater importance on the group to which they belong. Concomitantly, prejudice against outgroups (outgroup bias) may arise even if there is no history of rivalry or the distinctions between groups are superficial [18], although it has long been established that even trivial competition between groups can raise the levels of intergroup biases [19].

SIT, however, was never intended for explaining the emergence or development of such intergroup attitudes in children, and there is little agreement on the ages at which children form ingroup or outgroup bias. According to social-cognitive theory (SCT; [20, 21]), from an early age both ingroup and outgroup biases cloud children's judgments of—and influence their interactions with—each other. At least in White children, clear favouritism for White stimuli by the age of 3 to at least 7-8 years has been shown in numerous (e.g., [22–25]) studies. White children's outgroup bias in the form of rejection or dislike of—and negative attributions towards—non-White stimuli at those ages has also been found [5, 23, 26]. SCT explains that as children in this stage make sense of societal (e.g., sex, race) groups, they often generalise favourable feelings about themselves to ingroup members and unfavourable feelings to outgroup members due to the focus on between-group differences and within-group similarities [20]. Such biases wane towards later childhood, after 8 years, as cognitive maturation means that children gain more sophisticated classification skills (noting within-group differences and between-group similarities). Research has found that indeed older (9-10 years) children pay more attention to individual (versus group) characteristics compared with younger children (e.g., [21, 27]).

However, the expected developmental decline in outgroup bias has not consistently held, with some studies finding no difference—or even stronger ethnic prejudice—in older children (e.g., [28, 29]). Moreover, the mastery of cognitive skills has not necessarily accompanied a decrease in prejudice [23]. Crucially, ingroup bias is not often found in ethnic minority children, who report relatively nonbiased [5, 24] or prooutgroup/White [30, 31] attitudes. It is likely that, cognitive maturation aside, social forces (such as adult figures, peers, or wider social conditions) are at play when considering the status differences between groups in society. The latter also highlights the fact that much of the past research measured attitudes towards members of "naturally occurring" (sex or race) groups that do not enjoy equal status, and findings might bear out such imbalances. That may in part account for why boys and White children show stronger group stereotypes and ingroup bias than their counterparts [26, 32] in male- and White-dominant societies.

Recent conceptualisation of intergroup biases in children, social identity development theory (SIDT; [33–35]), offers an account that draws on social-motivational factors from SIT and cognitive development governing children's awareness of social cues and relative group statuses. Consistent with SCT, SIDT predicts early emergence of ingroup bias but posits that outgroup bias is not an inherent facet of the intergroup context. Research has typically found that negative outgroup attitudes emerge after 7 years of age which is in line with the popular idea that ingroup and outgroup biases are separate processes [36–38]. Ingroup bias is a more "primary" process that begins early as a product of social categorisation and precedes outgroup bias, which is subject to social-structural conditions. This idea also fits with the positive-negative asymmetry effect [39], which posits that adults and older children's weaker outgroup (versus ingroup) bias (asymmetry) reflects their greater willingness to differentiate between groups based on positive attributes over negative attributes as the latter implies prejudice and discrimination on their part.

Research supporting the later emergence of outgroup bias (and SIDT) has found that this bias develops under certain conditions, including the strength of identification with the ingroup, its relative status [40] and norms [14], and real or perceived outgroup threat [13–15]. The latter is pertinent to the present study, which examined the influence of competition (where the outgroup would be perceived as a threat) on intergroup attitudes. However, it differs from SIDT research in a few key respects. SIDT studies have tended to use a variant of the minimal-group paradigm that presents "group" members as novel peers in children's "own" or another group in vignettes. Conditions of outgroup "threat" are framed around an expectant fictitious competition against a rival outgroup (e.g., [15]). This original form of the minimal-group paradigm avoids some confounding factors such as having intergroup judgments influenced by prior exposure or relations between children, while the unfamiliar "ingroup" and "outgroup" members never interact in "real life" intergroup settings before children cast their judgments. The present study used the minimal-group variant that involves allocating children to "real" novel groups that interact with each other during a set fieldwork period [7, 8, 10]. However, the element of outgroup threat, particularly in the form of an actual competition (with a "win/lose" outcome) that takes place before intergroup attitudes are assessed had not been trialed in this variant to explore the impact of competition and its outcome on children. Still, notwithstanding the merits and caveats of each variant, studies using the most "minimal" groups (anonymous members [6, 9] or animations [11])—or least (splitting classes into novel groups [10])—have documented at least ingroup bias, attesting to the robustness of the essential minimal-group paradigm (arbitrary ingroup/outgroup allocation).

The primary objective of the present study was to examine the effect of competition on the intergroup attitudes of children aged 6 to 10 years in classroom settings that were organised by novel social categorisation. To promote children's motivation to use the novel social groups as well as the vigour of the competitive element in this context, the role of adult authorities was pivotal. A study has shown that in situations where adults responsible for arranging the fieldwork setting deliberately ignored even highly perceptually salient categories (by not using group labels or not organising activities using groups), children did not develop even ingroup bias [8]. In such environments, adults need to render the groups "socially meaningful" by placing "function" on the categorisation systems that they endorse through everyday socialisation and language use, which include labelling and group generics (terms referring to whole groups such as "boys" or "ladies" [41]).

To enact the minimal-group classrooms in this study, children were allocated either to the experimental condition where adult figures used perceptually salient groups (colour "teams") to organise everyday activities and gave regular reminders about the competition or to the control condition where adults did not refer to the groups despite children

doning salient group markers (similar to the situations where adults ignored perceptually salient social categories [8]). It was hence predicted that children in the experimental (rather than control) condition would develop ingroup bias. In terms of outgroup bias, as competition in the experimental condition presented an outgroup "threat" to which older (over 7 years) children are more receptive according to SIDT, then older children should be outgroup biased compared with younger children. If, however, the premises of SCT (regarding the decline of outgroup prejudice after 7 years) hold more sway, older, more cognitively mature children would be less outgroup biased than their younger peers.

To further investigate the impact of competition *outcome*, a set of "group evaluation" (cf. [10]) measures was used. As minimal-group research tends to assess children in anticipation of a fictitious competition [15] rather than after an actual competitive outcome, this investigation was more exploratory. However, it could be reasoned that children in groups that lost would view the outgroup as being more of a "threat" and should thus report more outgroup bias, but their ingroup evaluation could also be more critical due to its loss compared to that of their peers that won.

Finally, we explored the role of two individual differences variables, classification skills and self-esteem, implicated in previous theory and research on intergroup attitudes. SCT argues that with cognitive advances a decline in intergroup bias bears out children's more sophisticated classification skills and recent research [6] has found evidence for this. It was thus expected that children with better classification skills would report less intergroup bias compared to those who were less advanced. Meanwhile, it has been argued that individuals with low self-esteem may try to strengthen their self-image by making the ingroup more distinctive or discrediting outgroups, as SIT implies that ingroup bias can be a means of elevating self-views [16, 42], but empirically *higher* self-esteem is associated with stronger ingroup bias in children [8]. Perhaps children with higher self-esteem invest more in ingroup identity, through their acceptance as a group member, to further raise their self-worth. As ingroup and outgroup attitudes could be analysed separately, the associations between self-esteem and ingroup and outgroup biases were ascertained.

2. Method

2.1. Participants. The sample consisted of 112 (47 boys) children aged 6 to 10 (M = 7.96; SD = 1.54) years at a state primary school in East London. The children were drawn from two year groups (Year 2 and Year 5), one of 6-7- (M = 6.50; SD = 0.50) and one of 9-10- (M = 9.42; SD = 0.50) year-olds at the time of fieldwork. Two classes (experimental and control) from each year group participated. In Year 2, the two classes had the same number of children (N = 28; 14 boys in experimental class, 13 boys in control). In Year 5, the control class (N = 29; 11 boys) had two more children than the experimental (N = 27; 9 boys) class. The sample reflected the school and area's ethnic diversity with the majority self-classified as (South) Asian (N = 31), Black or Caribbean/African (N = 28) and White/Caucasian (N = 19), and a substantial minority of "other" ethnic (N = 28) and mixed race (N = 6) children. Ethnic composition was largely similar across conditions and age groups (ages 6-7, control: 5 White, 8 Black, 10 Asian, 4 other, and 1 mixed; experimental: 4 White, 5 Black, 7 Asian, 11 other, and 1 mixed; and ages 9-10, control: 2 White, 9 Black, 6 Asian, 9 other, and 3 mixed; experimental: 8 White, 6 Black, 8 Asian, 4 other, and 1 mixed). The majority of families were classified as being of lower to lower-middle income backgrounds. The parents of participants were informed of the research in writing and at a group briefing and each signed permission to opt in their child for the classroom procedure and pre- and posttests.

2.2. Pretest Measures

2.2.1. Classification Skills. To measure children's ability to classify objects, they were asked to sort picture cards varying along multiple dimensions (cf. [8, 10]). Each child finished two sorts, one involving eight nonsocial stimuli (four cars and four boats differing in colour and size) and one involving social stimuli (drawings of four boys and four girls differing in colour of clothing and emotional expression) and each task was sorted twice. The child was asked to sort the cards into two groups based on a single dimension ("put the ones that go together on this side. . .") and explain the sorting ("why have you sorted the cards like this?"). The researcher then shuffled the cards and asked the child to sort them using a different dimension (". . .now can you sort them in another way?") and explain his/her sort again. For each sorting, children were awarded score 0 if they provided an incorrect or no sorting, score 1 if they provided a correct sorting without a valid explanation, and score 2 if they provided a correct sorting and a valid explanation (e.g., "they are all blue/tractors/smaller/girls/in green/smiling"). Each type of classification aggregated into a 4-point (0–4) scale.

2.2.2. Self-Esteem. Two peer acceptance and cognitive subscales of Harter and Pike (1984) [43] Pictorial Perceived Competence and Social Acceptance for Young Children were adapted. Each child was shown two drawings of a same-sex child, one showing him/her surrounded by peers in a playground and the other showing the same child playing by himself/herself, both with a smiling facial expression, and the presentation of the drawings was counterbalanced. Each child was asked "how much are you like this happy boy/girl?" for each target picture. The available responses corresponded to scores of 1 (nothing like), 2 (a little bit like), 3 (quite a bit like), or 4 (a lot like) him/her.

2.3. Posttest Measures

2.3.1. Trait Ratings of Ingroup and Outgroup Members. Children's attitude towards the colour team (ingroup/outgroup) members was measured using a procedure devised in previous studies [8, 10]. They rated how many members in each colour team could be characterised by each of the five positive (friendly, good, nice, good-looking, and smart) and

five negative (dirty, mean, naughty, selfish, and unfriendly) traits extracted from Preschool Racial Attitude Measure II [44]. Answers for each team were scored on a 4-point scale, reverse-scored for the negative traits, between 4 (all of the yellow/green team people), 3 (many yellow/green team people), 2 (some yellow/green team people), and 1 (none of the yellow/green team people). Scores for each type (positive or negative) of traits for each team thus ranged from 5 to 20, and trait variability between teams (ingroup versus outgroup) ranged from 0 to 15 on each type.

2.3.2. Evaluation of Ingroup and Outgroup. Children were first asked two questions regarding group choice: "If you had to choose which team you liked to be in, which would you choose?"; "if a new boy/girl had just joined this class, which team would they like to be in?" (yellow/green team). Children were then asked two questions regarding "team identification": "How happy are you to be in the yellow/green team?" with responses scored as 1 (not happy), 2 (a little happy), 3 (quite happy), or 4 (really happy); and "how important is it to be a part of the yellow/green team to you?" with responses scored as 1 (not important), 2 (a little important), 3 (quite important), or 4 (really important). Finally, children in the experimental condition were asked three questions about team "performance": "Which team do you think had the most fun these weeks?"; "which team do you think got in the most trouble these weeks?"; "which team do you think deserved to win the competion [*sic*]?" Children's responses were rated 1 (favouring the ingroup) or 0 (favouring the outgroup) so that each child's score on his/her team's performance ranged from 0 to 3. Such measures were adapted from those that have been used with preschool-age children reliably [10].

2.4. Procedure. Before the experimental manipulation, all children in each participating classroom were given pretest measures to assess their classification skills and self-esteem. Then each child was randomly allocated a green or yellow tie (around 25 cm long made of cotton) to wear daily. The researcher and classroom teachers explained to the children that the colour ties would be put on at the start of school every day as their "class uniform" (children in English state schools wear school uniforms). The children wore the ties for two weeks.

During the two weeks the teachers and the experimenter (who acted as a class assistant) in the experimental classrooms made consistent use of the colour "teams" to label children (e.g., "yellows/ greens, go back to your tables/seats please") and to organise the class with protocols commonly practiced to maintain order and discipline in schools. Such practices included, among others, lining up to go to the school hall for assemblies, to the canteen for lunch, or to the outdoor play area for recesses and splitting the class for games lessons (where children were used to be grouped to take turns for activities, but on a random basis rather than consistently as two teams). Both (older and younger) experimental classes used such protocols as part of the school routine and shared the same amount of assemblies, lunch breaks, recesses, games lessons, and suchlike. To maintain the competitive element throughout the fieldwork period, children were reminded at the start of each day about the competition that would take place at the end of the two weeks and that if they displayed "bad" behaviour such as arguing or fighting, their team "might lose points." They were also told that, after the competition, where a team would win and the other lose, each winning team member would receive a prize. However, the teachers were instructed to deal with the teams equally and to exhibit no favouritism towards the members of either team. Teachers in the control condition did not make references to the colour groups or organise their classroom by any team. Although certain children were interested and asked about the purpose of the ties and their teachers said that the attire might mark them as colour groups, no functional use was made of these markers through the two-week period.

On the last day of fieldwork, competition in the experimental classrooms ensued shortly before lunch which involved short age-appropriate spelling and numeracy tasks where members scored a point for their team by each correct answer. After lunch, participants were interviewed individually by the experimenter for the posttests. Then debriefing took place before the end of school where the researcher and teachers explained the nature of the research to all children and involved them in a discussion of positive qualities for each team. Children received stationeries as rewards. The procedure was run in one of the four classes at each two-week period.

3. Results

3.1. Pretest Measures

3.1.1. Classification Skills. Classification scores ranged from 0 to 4, with a mean of 3.26 (SD = 0.91) for nonsocial and 3.36 for social (SD = 0.98) stimuli. As performance on the two tasks were correlated, $r(112) = 0.69$, $p < 0.001$, the scales were combined to become a unitary classification skills score. A 2 × 2 (condition by age group) Analysis of Variance (ANOVA) confirmed a main effect of age group, $F(1,108) = 11.47$, $p < 0.001$. Older (9-10 years) children (M = 3.57; SD = 0.81) scored higher on this measure than younger (6-7 years) children (M = 3.04; SD = 0.95).

3.1.2. Self-Esteem. Self-esteem scores ranged from 1 to 4, with a mean of 2.79 for the group play item and 3.76 for the solitary play item. Scores on the scales were correlated, $r(112) = 0.37$, $p = 0.03$; thus they were combined to form a single self-esteem score. A two-way ANOVA (condition by age group) revealed no significant differences between conditions ($F(1,108) = 0.09$, $p = 0.8$) and age groups ($F(1,108) = 0.27$, $p = 0.6$).

Pearson's correlations were used to test the association between children's age in months and pretest scores and found it to be correlated with classification skills, $r(112) = 0.30$, $p < 0.001$.

To test whether boys and girls differed in their responding to the pretest measures as well as intergroup attitudes (as

Table 1: Summary of mean ingroup and outgroup trait ratings by age group and condition.

	6-7 years old				9-10 years old				*F* ratio		
	Control		Experimental		Control		Experimental				
	M	SD	M	SD	M	SD	M	SD	Condition	Age	Con. × age
Ingroup positive[a]	16.07	2.62	16.71	2.93	**4.52****	**3.11**	**17.37****	**1.88**	11.14**	NS	4.30*
Ingroup negative[b]	**10.18****	**2.29**	**8.39****	**2.50**	8.79	2.41	9.89	2.94	NS	NS	8.99**
Ingroup overall[a]	5.89	3.33	8.32	4.80	5.83	5.00	7.48	3.68	6.38*	NS	NS
Outgroup positive[a]	**14.75****	**2.69**	**12.43****	**2.94**	13.24	3.19	15.30	2.85	NS	NS	15.64**
Outgroup negative[b]	10.46	2.40	12.18	3.18	9.66	2.50	10.22	2.79	4.89*	7.18**	NS
Outgroup overall[a]	**4.29*****	**3.77**	**0.25*****	**4.93**	3.59	4.98	5.07	4.46	NS	5.72*	10.25**

[a]Higher scores = more positive; [b]higher scores = more negative.
$^{*}p < 0.05$; $^{**}p < 0.01$; $^{***}p < 0.001$.

a check for gender bias), an analysis on each was run with gender and condition as independent variables and confirmed that there was no gender effect (classification skills, $p = 0.1$; self-esteem, $p = 0.4$; ingroup bias, $p = 0.9$; outgroup bias, $p = 0.2$).

3.2. Posttest Measures

3.2.1. Ingroup and Outgroup Trait Ratings. High Cronbach's Alpha reliability scores were found for ratings on both ingroup (positive, $\alpha = 0.71$; negative, $\alpha = 0.71$) and outgroup (positive, $\alpha = 0.69$; negative, $\alpha = 0.70$) traits. Children's ingroup positive trait score was then computed by summing the scores on all five ingroup positive traits' scores and ingroup negative trait score by summing all negative outgroup traits' scores. An overall ingroup attitudes score was formed by subtracting the ingroup negative trait score from ingroup positive trait score where higher scores meant more positive ingroup attitudes. These same processes were followed for the outgroup traits scores for forming the outgroup positive, negative, and overall attitudes scores.

To test for differences in children's ingroup and outgroup ratings between the conditions and age groups, a 2 (condition) × 2 (age group) ANOVA was performed for each of the above scores (see Table 1). An overall ingroup bias was found as ingroup members were rated more positively by children in the experimental condition than by their control counterparts. When positive and negative trait scores were tested separately, younger children in the experimental condition rated more outgroup members with negative traits compared with their counterparts in the control condition. Older children in the experimental condition rated more ingroup members with positive traits compared with their counterparts in the control condition.

Neither condition nor age group itself affected outgroup attitudes, but a condition × age group interaction was found. The outgroup was rated less positively by younger children in the experimental condition than by their control peers. Separate analyses for positive and negative traits found that younger children in the experimental condition rated fewer outgroup members with positive traits compared with their control peers, but both age groups in the experimental condition rated more outgroup members with negative traits than their control peers (Table 1).

To compare children's ratings of their ingroup versus outgroup members, a 2 (age group) × 2 (condition) × 2 (target: ingroup versus outgroup) repeated measures ANOVA, with target as the within-subjects variable, was conducted for each of the overall positive and negative trait scores. For positive trait scores, a main effect of target was found, $F(1,108) = 57.40$, $p < 0.001$, qualified by a target × condition interaction, $F(1,108) = 9.36$, $p = 0.003$. Follow-up tests found that children in the experimental condition (M = 17.04, SD = 2.47) rated more ingroup members with positive traits than did their counterparts in the control condition (M = 15.33, SD = 2.95; $p < 0.001$), but no differences in positive outgroup trait ratings existed across conditions. For negative trait ratings, a main effect of target was found, $F(1,108) = 16.32$, $p < 0.001$, qualified by the interactions, target × condition, $F(1,108) = 5.195$, $p < 0.03$, target × age group, $F(1,108) = 4.87$, $p < 0.03$, and target × condition × age group, $F(1,108) = 9.55$, $p < 0.003$. Simple-effects tests revealed that it was among younger children in the experimental group that mean outgroup negative trait ratings (M = 12.18, SD = 3.18) were higher than mean ingroup negative trait ratings (M = 8.39, SD = 2.50; $p < 0.001$).

To check that children's scores differed from chance, "bias" scores were calculated where positive bias was computed by subtracting outgroup positive traits scores from ingroup positive traits scores, and negative bias was computed by subtracting ingroup negative traits scores from outgroup negative traits scores, for each child (cf. [10]), such that higher scores indicated greater ingroup bias. The sample showed both a positive (M = 2.26, SD = 3.35; $t(112) = 7.14$, $p < 0.001$) and a negative (M = 1.32, SD = 3.70, $t(112) = 3.78$, and $p < 0.001$) trait bias that differed significantly from 0 (no bias). Separate analyses showed a positive trait bias in both age groups and conditions (control: younger, $p < 0.01$, older, $p < 0.02$; experimental ps < 0.001), but only younger children in the experimental condition showed a negative trait bias ($p < 0.001$).

To explore the effect of competition outcome (win or lose) on intergroup attitudes, above ingroup and outgroup trait ratings were examined with 2 (competition outcome)

Table 2: Mean ingroup positive trait score, being "happy" with group membership score, and ingroup performance score by age group and competition status.

	6-7 years old				9-10 years old				Age group × comp status
	Winners		Losers		Winners		Losers		
	M	SD	M	SD	M	SD	M	SD	F
Ingroup positive traits (scale 5–20)	**17.85**	**1.73**	**15.73**	**3.43**	17.08	2.31	17.60	1.88	11.14*
Happy with membership (scale 1–4)	**4.00**	**0.00**	**2.73**	**0.96**	3.50	0.80	3.47	0.64	10.30**
Ingroup performance (scale 0–3)	**2.92**	**0.28**	**0.73**	**0.59**	2.25	0.97	2.00	1.00	21.71***

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table 3: Percentages of children that preferred as their own choice—and inferred that a new peer would prefer—the ingroup by age group, condition, and competition status.

	6-7 years				9-10 years			
	Control	Experimental		χ^2	Control	Experimental		χ^2
		Winners	Losers			Winners	Losers	
	($N = 28$)	($N = 13$)	($N = 15$)		($N = 29$)	($N = 12$)	($N = 15$)	
Their own choice	64	**100**	**20**	18.20**	72	**100**	**60**	6.17*
Peer inference	71	**92**	**67**	2.72*	76	**92**	**60**	3.48*

* $p < 0.05$; ** $p < 0.001$.

× 2 (age group) ANOVAs for the experimental condition. Only one significant result involving competition was found: outcome × age group interaction on ingroup positive trait ratings, $F(1,51) = 4.13$, $p < 0.05$. Simple-effects tests revealed that the mean positive trait rating given by younger "winners" was significantly higher than that given by their "loser" counterparts ($p < 0.02$; see Table 2).

3.2.2. Group Evaluations. Children were first asked a question regarding their own group choice and one inferring which group a new peer would join. Overall, more children in the experimental (67%) versus control condition (54%) preferred to keep their group membership and this pattern was consistent across age groups (younger: experimental 57%, control 36%; older: experimental 78% versus control 72%). Still, Chi square tests of independence found these differences to be nonsignificant. Comparable proportions of children in the experimental (younger 79%, older 74%) and control (younger 71%, older 76%) conditions said that a new peer would join the ingroup; Chi square tests found the differences to be nonsignificant. Then to test whether competition outcome was related to group choice and peer inference, winning and losing teams' responses were compared. More winners preferred to stay with—and inferred that a new peer would join—the ingroup, particularly on the former measure as all the children in winning teams preferred to stay with their team (see Table 3).

Children were also asked how "happy" they felt about being in their team (ingroup) and how "important" that team membership was. Two 2 (condition) × 2 (age group) ANOVAs found no effect on "happiness" but a main effect of condition on "importance," $F(1,108) = 5.63$, $p < 0.02$. Children in the experimental condition (M = 3.33, SD = 0.90) rated their group as more important compared with those in the control condition (M = 2.88, SD = 1.07).

To ascertain whether competition outcome would affect the above "team identification" items, two 2 (age group) × 2 (outcome) ANOVAs were performed and found a main effect of outcome, $F(1,51) = 11.44$, $p = 0.001$, qualified by an outcome × age group interaction, on only happiness, $F(1,51) = 10.30$, $p = 0.002$. Simple-effects tests revealed that younger winners were happier being in their group than younger losers ($p < 0.001$; see Table 2).

Finally, for the experimental condition group performance was tested by questions about which team (ingroup or outgroup) had the most fun and trouble and deserved to win (scale 0–3). A 2 (competition outcome) × 2 (age group) ANOVA found a main effect of outcome, $F(1,51) = 34.35$, $p < 0.001$, qualified by outcome × age group interaction, $F(1,51) = 21.71$, $p < 0.001$. Follow-up tests revealed that younger children in the winning team rated their group's performance more positively than their losing counterparts ($p < 0.001$; see Table 2).

3.3. Individual and Developmental Differences in Intergroup Attitudes and Group Evaluation. To test whether children's classification skills or self-esteem as individual factors would predict their intergroup biases, hierarchical regression analyses using those pretest measures and age as predictor variables were conducted for each set of trait ratings (ingroup/outgroup positive and negative) and group evaluation measures, for the sample, and separately for each condition. The two items of group choice (their own choice and inference about a new peer, coded 0/1 for out-/ingroup) were summed to form a 0–2 scale for these analyses.

The regression models were nonsignificant apart from two on trait ratings, both for the experimental condition only. One was where age emerged as the only unique predictor ($p = 0.003$; $B = 0.95$, SE = 0.30) for outgroup positive traits, $F(3,51) = 5.06$, $p = 0.004$, and $R^2 = 0.23$, and the other

was where classification skills only emerged as a marginally significant ($p = 0.08$; $B = -0.88$, SE = 3.62) unique predictor for outgroup negative traits, $F(3,51) = 2.91$, $p < 0.05$, and $R^2 = 0.15$.

4. Discussion

The present study investigated the effect of social categorisation, with an additional element of intergroup competition, on ingroup and outgroup attitudes and group evaluations of 6–10-year-olds in British classrooms. We created the intergroup settings by adapting elements from previous minimal-group research in which children developed biases towards novel social group members when such groups are perceptually salient and are used to label children to organise their setting [7, 8, 10].

Our results showed that, similar to previous research findings, British children develop ingroup-biased attitudes through novel social categorisation; our sample displayed positive and negative trait bias (differing from chance) favouring the ingroup over outgroup. However, it is pertinent to distinguish between ingroup and outgroup biases and between positive and negative trait biases. These distinctions reflect the design where children were in either the experimental condition when key adults emphasised group membership, or control condition when there was no such emphasis. Firstly, those in the experimental condition held greater overall ingroup bias (rating more ingroup members using positive over negative traits) than their peers in the control condition, but differences in overall outgroup bias (rating more outgroup members with negative over positive traits) by condition were found in the younger (6-7 years) children only. This trend was reflected by analyses comparing the ingroup versus outgroup, on positive and negative traits separately. Children in the experimental condition overall showed a greater ingroup positive bias (rating more ingroup than outgroup members with positive traits) compared with children in the control condition, but only younger children in the experimental condition displayed a greater outgroup negative bias (rating more outgroup than ingroup members with negative traits) than their peers in the control condition. Indeed inspection of the biases confirmed that only younger children in the experimental condition showed a negative trait bias differing from chance.

The differential patterns of ingroup and outgroup biases support the idea that the two are distinct processes, though former studies show that ingroup positivity tends to form earlier than outgroup negativity [36–38]. The intergroup context in this study, where the social groups were organised by adult figures, may in part explain the difference. Ingroup bias was prevalent across the age groups and this may be seen as lending support to the key premise of self-categorisation theory [45], where the prevailing context renders social group memberships more or less salient (here more salient if adults organised the groups). However, outgroup bias in terms of its relative (to ingroup) negative valence was prevalent in only the 6-7-year-olds and not the 9-10-year-olds. This finding is in line with the premises of SCT (rather than SIDT) where outgroup derogation is predicted to be prevalent until a decline beyond 7-8 years when children have greater capacity to attend to individual attributes rather than relying on between-group differences and within-group similarities [16]. The pattern also bears out the positive-negative asymmetry [39]; older children may be reluctant to mark outgroup members based on negative traits so as not to appear prejudiced. Further research that can measure social desirability concerns may shed light on this possibility.

Still, there could be other explanations for the finding that younger children had greater outgroup bias, contrasting research using the "vignettes" minimal-group design that has reported older children to be more outgroup biased versus their younger peers, supporting SIDT [33–35]. The "vignettes" approach assesses children attitudes towards novel group members who are also manipulated as belonging to varying naturally occurring (ethnic) groups. That work emphasises conditions attached to novel groups (including group status or norms) that moderate children's attitudes towards ethnic groups. In ours and other "fieldwork" research [7, 8, 10], novel groups were maintained by adult efforts to organise children's everyday environment and novel group memberships did not cut across other social group memberships. The "competitive" element is also enacted differently between the variants, where the vignettes narrate the "competition" as a future event to anticipate while the present approach pitched children against each other as "real" team members throughout the fieldwork period that culminated in an actual competition with a "win/lose" outcome that could define the relative statuses between groups and impact intergroup biases and group evaluations (cf. SIT). The novel group membership and sense of competition were likely to be highly salient in this context as no other group membership was manipulated systematically and intergroup attitudes and group evaluations were taken immediately after the end competition. Weaker outgroup bias in older children in this context might bear out certain evidence showing that towards later childhood children have grown used to competitive games while those during middle childhood become highly competitive [46, 47].

The age-specific impact of competition is also borne out by the findings where younger "winners" displayed more positive ingroup attitudes, were happier with their team, and rated its performance more highly compared with younger "losers." Overall children in the experimental condition were sensitive to the competitive element; they rated their team memberships as more important (an indicator of ingroup identification; cf. [40]) than those in the control condition and winners preferred to stay with their team and inferred that a new peer would join them. The fact that younger children were more affected by losing (weaker ingroup bias and worse evaluations) may reflect again their burgeoning competitiveness, an aspect that further research may address.

In terms of individual differences, we found evidence for the role of classification skills in intergroup bias, in line with recent findings with British children in minimal-group studies [6]. Better classification skills were associated with lower negativity towards outgroup members and this fits with the premise of SCT that the ability to categorise along

multiple dimensions, as seen in older children, underpins less prejudice against outgroups [20]. This is also consistent with the result that outgroup positivity increased with age. Classification skills, however, were not related to ingroup bias. This might be because younger children were already skilled at sorting (cf. [10]) even though our tasks did distinguish the age groups. It may also be that identifying with ingroup members distinguishable on a perceptually highly salient attribute emphasised by adults does not need very sophisticated skills. Further studies may extend this inquiry by including even younger children with less developed classification ability or setting a minimal-group context with more complex social categorisations or multiple intergroup manipulations (cf. [13, 15]).

We did not find associations between self-esteem and intergroup biases. Although this is not new [10], it is perplexing that earlier research did show that children with higher self-esteem developed stronger ingroup bias than those with low self-esteem [8]. It may be that participants' self-esteem was relatively high, perhaps a product of the measures used, if self-esteem does tend to be high at these ages [48]. On the other hand, it is probable that intergroup attitudes—ingroup bias in particular—are simply unrelated to self-esteem. The need to belong to a group and affiliate with its members may be so strong that individual difference such as self-esteem impacts it only in a minor way. In fact the theoretical premises (SIT) and empirical findings [16, 42] suggest that elevated self-views more likely *result from* ingroup bias anchoring a positive identity. Since self-esteem was assessed only before fieldwork, further studies on the impact of social categorisation and intergroup biases can explore this by measuring self-esteem also during and after fieldwork.

Unlike certain minimal-group "fieldwork" research [8], children in this study had known each other before the fieldwork. Existing friendships might in part explain the fact that children reported relatively positive attitudes towards the outgroup (rating them with more positive than negative traits). If children had formed acquaintances at the start of fieldwork, intergroup biases might have been even stronger. Some measures (in addition to the current protocols) could have been put in place to regulate teachers' references to the groups and organisation of their classes. Alas, the clear ingroup bias and group evaluations by the experimental groups, in particular the losing teams, confirm the robustness of the minimal-group paradigm and competitive element. Future studies could use observational methods to gauge the consistency with which groups are organised within conditions and consistency between attitudes and behaviour.

In conclusion, the present study shows that, when assigned to novel and functional social groups in classrooms, British children aged 6 to 10 years develop clear positive ingroup bias, but negative outgroup bias is prevalent only among 6-7-year-olds, particularly when groups engage in competition that can present an outgroup threat and lower their relative group status. Our results are in line with existing findings and support intergroup (SIT) and developmental (SCT) theories as children attend to—and form intergroup biases from—social categorisation rendered meaningful by adult authorities, and younger children's biases are enhanced by the effects of competition.

Disclosure

This study had been presented orally at the BPS Developmental Conference (Reading, 2013).

Competing Interests

The authors declare that there are no competing interests regarding the publication of this paper.

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